

# Jackpile Reclamation Project

## PUEBLO OF LAGUNA

Office of  
Reclamation Project Manager  
(505) 242-0506  
(505) 552-6011

P.O. BOX 194  
LAGUNA, NEW MEXICO 87028

Tribal Building  
(505) 243-7616  
(505) 552-6654  
(505) 552-6655

February 18, 1994

TO: Lester K. Taylor-Legal Counsel

FROM: Jim Olsen, Jr., PE-Reclamation Project Manager, Pueblo of Laguna

SUBJ: Comments on Post-Reclamation Land Use Report

REF: "Evaluation for Post Reclamation Land Use at the Jackpile Mine Area" Report  
by F. Andazola and C. Sadler

Submitted through Paul Robinson-Southwest Research & Information Center  
February 3, 1994

CONFIDENTIAL CLAIM RETRACTED

DATE: 5/16/93 AUTHORIZED BY: [Signature]

As per your request, the following are my comments on the referenced report received by your office on February 7, 1994. I will cite the pages in their report on which the comments are made. In general, the report is based on a great deal of old information and studies which are not relevant to the changed conditions following the reclamation activities.

PAGES 3 & 4: The difference in the cover thickness of 6 inches is the result of additional study, evaluation, and recommendations that were supplied by the revegetation consultant (Dr. Ed Kelley, Ph.D) when the revegetation and soil specifications were revised and approved by the POL and BIA in 1991 (see "Final Soils and Vegetation Evaluation, Roy F. Weston Engineering, Inc., 1991). A slightly thinner soil cover was deemed appropriate since thicker soil covers would provide a better medium for the deeper rooted plant species and thus encourage more potential for penetration through the shale barrier. The gamma and radon protection is really provided by the 12" shale thickness and the soil cover adds little or no incremental benefit. For all practical purposes, the soil cover is the medium for the vegetation, which in turn is the erosional stability factor. The relevance to the radon emissions is questionable since the *unreclaimed site already met the standard specified in the Record of Decision*. Radon monitoring for the past five years has shown statistically significantly lower average values than the averages shown in the Environmental Impact Study done in the mid-1980's.

PAGES 5 and 6: There are actually three seed mixtures. The one they did not mention was the "Seed mixture for distressed areas" which is a special mix recommended by Dr. Kelley as a technique to rehabilitate areas where, for whatever reason, the vegetation density and diversity is below the desired result. A slightly different approach was also adopted (and approved by the POL and BIA) for evaluating vegetation success. Depending upon the rapidity of the growth (which could vary considerably given the high variability in moisture and temperature conditions), release of some areas to other uses could happen sooner than the 10 year period if it can be demonstrated that an area meets the criteria. A highly detailed rating and evaluation



## Comments on Land Use Report cont'd

system was developed which gives a more relevant comparison. In addition, the state-of-the-art also recognizes that "controlled" grazing actually will enhance the health and longevity of the vegetative cover and adoption of such techniques had been recommended to the POL.

However, close scrutiny of this technique to insure the land is not abused or overgrazed would require vigilance and planning on the part of the POL. The BIA and BLM would also have to be satisfied that an area can be released since they are still maintaining an oversight function during the monitoring period.

PAGE 9: Comparing the Laguna site to the Ambrosia Lake because conditions, chemistry, and vegetation are "identical" is disputed. One thing we have learned in reclamation science is that each site has its own unique characteristics that must be recognized and incorporated into a workable plan. This was one of the weaknesses in much of the Jacobs Engineering work whereby heavy reliance on techniques at other locations and technically very different problems produced some unusable designs and approaches which had to be corrected.

PAGE 10: Caution is needed when comparing to mill tailings situations. The report even acknowledges that more study is needed and I would consider what is reported as "inconclusive".

PAGE 11: The risk assessments and reported probabilities of health effects are staggeringly remote. Also, the assumptions that go into such assessments (amounts consumed, where the cattle grazed, organs consumed, etc.) are suspect. The report even acknowledges the results cannot be considered "representative" of the Laguna situation.

PAGE 14: The report is implying there is a "significant" problem at the Mesita Reservoir based on the exposure rates. In fact, 96% of the values meet the "twice background" (28 microR/hour) standard for the Jackpile site which is, indeed, very conservative. (I believe the EPA required 57 microR/hour at the Haystack Mine reclamation west of Grant, NM in 1992.) Eberline, Inc. conducted a very detailed exposure study and found one small area that had a rate around 43 microR/hour. BIA has this report and as a result, they, the POL, and the US Fish and Wildlife concluded there is no significant problem and are proceeding with wetlands area enhancement activities. Also, the contribution of sediment containing naturally occurring radionuclides is difficult to distinguish from the mine site or other natural outcrops of geologic formations. The conclusion that these values are "significant hazards" is quite a leap and unsupported by the current information. Also, the high variability of the water sampling results (including those sites upstream from the Jackpile site) make their conclusions debatable.

PAGE 17: What is the "risk" to people "occupying these commercial spaces"? If the previously mentioned risk of the food pathway is the highest, concluding that these people are "still at risk" is unsupported by any data (new or old). Reporting such a risk without a reasonable assessment or basis is misleading. How significant is a one in million chance and should one be worried about it?

## **Comments on Land Use Report cont'd**

PAGE 18: I fail to see the relevance of the comments from Larry Chalis. As Richard Luarkie points out, people have chosen other ways to make a living and POL has made a conscious decision to pursue and promote other economic development and employment opportunities. The extraction of mineral resources in the future at Laguna is, in my opinion, extremely unlikely; however, that decision would have to be made by the Pueblo of Laguna and is a tribal matter and responsibility.

PAGE 26: The backfill "minimum of ten feet over the exposed ore to protect from ambient exposure" is erroneous. The backfill limit was determined by hydrological studies to be high enough to prevent ponding in the pit bottoms. Much of the backfill required to achieve this level is not uranium bearing material. Water chemistry in the pit bottoms would not be expected to change significantly since the uranium bearing material came from these locations in the first place and is only going back where it came from. The naturally occurring water quality has uranium, which should come as no surprise.

FIGURES 5 & 6 (Following Page 30): Reports of water quality are dated. As previously mentioned, the more recent data shows a high degree of variability (both upstream and downstream) as well as in the ground. The BIA-Hydrology Section (Albuquerque Area Office) will continue to review and analyze the data and sampling will continue thru the monitoring period.

PAGE 31: What does "... the samples show high levels, but are below standards" mean? Is it a problem or not? Also, I am unsure about what I am being quoted on. If waters contain naturally high levels, does this not become "background" by definition? No one has ever implied that pit waters, either now or in the future, were to be considered for domestic or livestock use. (Grazing in pit bottoms would also probably not be recommended). The Jackpile formation is a low transmissivity and yield aquifer and better sources of ground water have considerably more potential for Tribal use. The primary purpose of monitoring the wells in the pit bottoms is to track water level recovery.

PAGE 32: Migration of water through waste dumps which will then get into adjacent streams and aquifers is unlikely. Considerable design and construction consideration has been given to surface runoff and drainage from these areas. The mechanisms of how this is supposed to occur is not clear. Water won't pond on these sites and the vegetation will absorb and evaporate any precipitation. Again, a significant "leap" is made in the report about the concentrations of radionuclides (and potential problems) in the Mesita Reservoir; their conclusion is weak.

**SUMMARY RECOMMENDATIONS:** We know what needs to be done and that is why the POL will continue to monitor the site.

## Comments on Land Use Report cont'd

### CONCLUSION

The report does not seem to be aware that a detailed monitoring program and plan was developed, reviewed, and approved by the POL-Council and BIA in 1993 to address the very issues the report cites. I am sure I mentioned it to the writers when they visited the site. We are well aware of the environmental and land use considerations to be addressed; their conclusions are **premature**, at best, since many of the evaluations of vegetation and water are still to be done, pending additional data. Much of what they say is based on old data which may not be of value since the reclamation progress has significantly changed many of the conditions noted in the EIS. The POL has already committed personnel and financial resources to conduct the Monitoring Program.

In the meantime, **the site is still restricted** and will remain so until the data support other uses as desired by the POL and approved by the oversight agencies.

I would not recommend the POL use the report as an evaluation or planning tool because of the deficiencies noted. Much of the data are old; the conclusions and hazards are overstated to the point of needlessly alarming the uninitiated. The Post-Reclamation and Long Term Monitoring Plan, if properly executed, should provide a better basis for evaluation and decision making for the POL in the future.

pc: Governor Harry D. Early  
Marvin Sarracino-Reclamation Technician-POL  
Neal D. Kasper-Laguna Construction Company  
Allen Sedik, PE-BIA Civil Engineer  
file: rpm3lkt (geoworks)